Direct Push Samples

- Steel rods pushed, vibrated or driven into ground
- Filled with sampling devices for soils or fluids
- Can be fitted with sensors (CPT cones/LIF)
- Limited to moderate depth, 20'-60' except under ideal conditions

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Effective Free Product Recovery

Convert TPH Results to Saturation

$$S_o = TPH \times \frac{(1 - \phi)\rho_{gr} \times 10^{-6} \frac{kg}{mg}}{\phi \rho_o}$$

where:

 S_0 = total hydrocarbon saturation (dimensionless)

TPH = total petroleum hydrocarbon concentration in mg/kg

 ρ_{gr} = grain density (typically 2.65 g/cm³)

 ϕ = porosity (dimensionless)

 ρ_0 = density of the hydrocarbon, liquid (g/cm³)

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Effective Free Product Recovery

Saturation

Ratio

Volume of phase Volume of void

Dimensionless, expressed as fraction or percent

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- Effective Free Product Recovery

Porosity

- Defines storage potential
- Ratio

Volume of Void Space Total Volume

• Dimensionless expressed as fraction or percent

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